

IN THE CLAIMS:

3. (Amended) The mucinase of claim 1, produced by a host or host cell and isolated from said host, host cell or medium in which said host cell is cultured.

5. (Amended) A pharmaceutical composition comprising an effective amount of the mucinase of claim 1 and a pharmaceutically acceptable carrier or diluent.

6. (Amended) A pharmaceutical composition for treatment or prophylaxis of a subject against a disease in which mucus is involved, said pharmaceutical composition comprising:

a therapeutically or prophylactically effective amount of the mucinase of claim 1, and
a pharmaceutically acceptable carrier or diluent.

8. (Amended) A composition comprising the mucinase of claim 1 and a carrier or diluent.

10. (Amended) A method of therapeutic or prophylactic treatment of a subject against a disease in which mucus is involved, said method comprising administering to the subject the pharmaceutical composition of claim 5.

13. (Amended) The method according to claim 11, wherein said host or host cell comprises a genetically engineered host or host cell.

14. (Amended) The method according to claim 11, wherein the amino acid sequence of said mucinase is encoded by a nucleotide sequence essentially corresponding to the nucleotide sequence shown in FIG. 8.

15. The mucinase of claim 2, further comprising
a chitin-hydrolyzing activity.

17. (Amended) A fusion protein comprising:

the mucinase of claim 1, and
a protection moiety.

18. (Amended) A composition comprising the mucinase of claim 1 and a carrier or diluent.

28. (Amended) The host cell of claim 26, wherein said host cell is genetically engineered to produce an altered amount of mammalian mucinase.

31. (Amended) The recombinant nucleic acid of claim 29, wherein said nucleotide sequence essentially corresponds to, or essentially is complementary to, the nucleic acid sequence shown in FIG. 8.

32. (Amended) An oligonucleotide of at least about 8 nucleotides having a nucleotide sequence corresponding to, or complementary to, a nucleotide sequence shown in FIG. 8 and being capable of binding by hybridization under stringent hybridization conditions to nucleic acid coding for the mucinase of claim 2.

33. (Amended) A peptide of at least about 8 amino acid residues having an amino acid sequence derived from the amino acid sequence shown in FIG. 8 and representing or mimicking an epitope of the mucinase of claim 1.

35. (Amended) An antibody capable of binding to the mucinase of claim 1.

37. (Amended) A diagnostic kit of the type having an antibody together with a component for detecting an antigen or an antibody, wherein the improvement comprises:

selecting the antibody to be the antibody of claim 36.

38. (Amended) A diagnostic kit of the type having a peptide together with a component for detecting an antigen or an antibody, wherein the improvement comprises:

selecting the peptide to be the peptide of claim 33.

40. (Amended) A diagnostic kit comprising the recombinant nucleic acid of claim 29 and a conventional component of diagnostic kits for detecting a nucleic acid.

41. (Amended) A diagnostic kit comprising a diagnostically effective amount of the mucinase of claim 1 and a conventional component of diagnostic kits for detecting an antigen or antibody.

42. (Amended) A method of decomposing mucin, said method comprising:

contacting said mucin with the mucinase of claim 1 under mucin hydrolyzing conditions.

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